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REMARKS

Regarding the Amendment

The claims have been amended to cancel claims 18-27 without prejudice.

Regarding claims 11-14

Although the office action indicates that these claims stand rejected, the undersigned could find no basis for the rejection stated in the action.

If the examiner intended to indicate that those claims are allowable, it is requested that the examiner issue a new office action so stating.

If the examiner intended to reject those claims, it is requested that the examiner (1) withdraw the finality of the December 5 office action and (2) issue a new office action which sets forth the basis for the rejection, so applicants have an opportunity to respond.

Regarding the rejection of claims 1-3, 5, 6 and 8-10 over the Spek and Kukkala references

The examiner rejects these claims using Spek (U. S. Patent No. 4,833,173) as the primary reference, with Kukkala (U. S. Patent No. 5,859,111) as a secondary reference. This rejection is respectfully traversed, for the reasons stated below.

Claim 1 of the present invention is drawn to a method for making an impregnated textile synthetic leather. In the method, a textile is impregnated with a polyurethane dispersion. The features of the polyurethane dispersion that are significant here are that it is comprised of a nonionic polyurethane and an external stabilizing surfactant. The impregnated textile is exposed to water containing a multivalent cation neutral salt, and in that way the dispersion is coagulated.

The primary reference, Spek, describes methods for forming foamed, coagulated polymer lattices. Spek describes two types of polymer latex, each of which is coagulated in a particular manner. This description appears generally at column 4 lines 31-53.

The first type of polymer latex described by Spek is heat coagulable, and has a heat-coagulant built into the polymer chain. These are coagulated by application of heat. See column 4 lines 33-42. At column 2 line 46 to column 3 line 11, Spek describes various types of heat coagulants that can be built into the polymer chain. These do not appear to be ionic materials.

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The second type of polymer latex described by Spek is coagulable through the addition of an electrolyte. This type of polymer has "highly anionic or highly cationic" character, as described at column 4 lines 43-47.

Therefore, Spek's teachings are very specific: polymer lattices without "highly anionic or highly cationic character" are coagulated by application of heat, whereas anionic or cationic polymer lattices are coagulated using an electrolyte. Spek does not describe, or even suggest, that a latex of a nonionic polymer could be coagulated with an electrolyte (such as a multivalent cation neutral salt), even though Spek was aware that electrolytes could be used to coagulate other types of lattices.

The description of electrolyte coagulants at column 6 lines 47-54 refers back only to Spek's second coagulation method, which involves an anionic or cationic polymer latex. This portion of Spek is not a teaching or suggestion that electrolyte coagulants, and multivalent cation neutral salts in particular, would be of any use with a nonionic polymer latex.

Therefore, Spek does not describe or suggest the subject matter of present claim 1, in which a nonionic polyurethane is coagulated using a multivalent cation neutral salt.

The examiner relies on Kukkala to bridge the gap between Spek and the present invention, but Kukkala has little relevance to the invention that is now claimed. Present claim 1 is to an impregnation method that includes a coagulation step. Applicants have been unable to identify anything in Kukkala that speaks to any method for coagulating a polymer dispersion. Kukkala appears to be focused solely on the manner in which certain polymer dispersions can be made, not with the manner in which they might be coagulated.

More to the specific point at hand, Kukkala does not describe, or suggest in any way, that a dispersion of a nonionic polyurethane could be coagulated using a multivalent cation neutral salt (or other electrolyte). There is nothing in Kukkala that would lead one of ordinary skill in the art to modify Spek's specific disclosures regarding how to coagulate specific types of polymer lattices.

Therefore, the combination of Kukkala with Spek does not lead to the present invention, and should be withdrawn.

If the examiner persists with this rejection, he is requested to point out the specific teachings in Spek or Kukkala which would teach or suggest that a nonionic polyurethane dispersion could be coagulated with a multivalent cation neutral salt.

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Regarding the rejection of claims 15-16 over Spek, Kukkala and Hoersch, and the rejection of claim 17 over Spek, Kukkala, Hoersch and Shkapenko

As already discussed, the combination of Spek and Kukkala does not render any of claims 1-3, 5, 6 and 8-10 obvious, because the combination of those references does not teach or disclose a coagulation method whereby a nonionic polyurethane is coagulated by contact with a multivalent cation neutral salt solution.

Therefore, the rejection of claims 15, 16 and 17 fails for the same reason unless the Hoersch and/or Shkapenko references make such a suggestion, singly or in combination with the other cited references. The examiner has not alleged that the additional references make such a suggestion.

Hoersch is cited only for its teaching of applying a foamed dispersion to a substrate to make synthetic suede leather. It does not teach any method of coagulating any type of polymer dispersion using a multivalent cation neutral salt. Therefore, the addition of this reference does not cure the deficiencies of Spek and Kukkala.

Shkapenko deals with polyurethanes that are cast from solvents, and provides no information that pertains to methods of coagulating dispersions.

Regarding the rejection of claims 18-27

This rejection is rendered moot by the cancellation of claims 18-27.

Summary

For the reasons discussed above, the invention defined by claims 1-3 and 5-17 is believed to be patentable over the references of record. A Notice of Allowance is respectfully requested.

Respectfully submitted,
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